

IN THE CLAIMS

1. (Currently Amended) A method to at least specify, document and prototype an instrument having specific user interface elements to meet individual customer/market needs, comprising displaying, with a graphical user interface, an image of a customer-selected instrument type, the image shown in two dimensions and having a coordinate system; enabling the customer to specify, with the graphical user interface, individual ones of a plurality of instrument parameters and horizontal and vertical locations thereof in the coordinate system in a self-documenting fashion; wherein enabling comprises enabling the customer to specify both a horizontal location and a vertical location on the image of at least one of the instrument parameters; in response to a selection of at least one type of instrument parameter, updating the displayed image to correspond to the selected instrument parameter at the specified horizontal and vertical location in the coordinate system; and developing at least one prototype instrument for the customer based on the selected parameters and the self-documentation.

2. (Original) A method as in claim 1, further comprising manufacturing an instrument based on the selected instrument parameters and the self-documentation.

3. (Currently Amended) A method to specify a gauge, comprising:

in response to a user accessing a server coupled to a data communications network, displaying an image of a user-selected gauge type, the image shown in at least two dimensions and comprising a plurality of at least two-dimensional visual aids, the plurality of at least two-dimensional visual aids placed at a plurality of vertical and horizontal locations in the image, at least two of the plurality of at least two-dimensional visual aids having different shapes in the at least two dimensions and having different vertical locations on the image;

enabling the user to specify individual ones of gauge functions of the visual aids using a plurality of drop down menus; and

in response to a selection of at least one type of gauge function for one of the visual aids, changing the displayed image to correspond to the selected gauge function.

4. (Original) A method as in claim 3, further comprising preparing at least one sample of the selected gauge type in accordance with the selected gauge functions.

5. (Currently Amended) A method to specify a gauge, comprising:

in response to a user accessing a server coupled to a network, displaying an image of a user-selected gauge type comprising a set of configurable gauge functions located at a plurality of locations in the image;

displaying in association with the selected gauge type a set of visual aids corresponding to defined functions;

enabling the user to specify individual ones of the configurable gauge functions using said set of visual aids and a drag and drop technique for selecting individual visual aids from the set of visual aids and associating a selected visual aid with a configurable gauge function, wherein associating also associates the configurable gauge function with a defined function corresponding to the selected visual aid, and wherein enabling comprises enabling the user to move using the drag and drop technique at least one of the configurable gauge functions in at least two dimensions on the image of the selected gauge type; and

outputting a data file for use in manufacturing at least one sample of the selected gauge type in accordance with the configurable gauge functions corresponding to the selected visual aids and associated defined functions.

6. (Currently Amended) A method as in claim 5, where at least one of the configurable gauge functions ~~are-is~~ located at a fixed ~~locations~~ location in the image.

7. (Original) A method as in claim 5, where the configurable gauge functions are located at user selected locations in the image.

8. (Original) A method as in claim 5, where the configurable gauge functions are located at user selected locations in the image, and have a fixed size and shape.

9. (Original) A method as in claim 5, where the configurable gauge functions are located at user selected locations in the image, and have at least one of a size and a shape selected by the user.

10. (Currently Amended) A tool operable to specify a gauge, comprising a graphical user interface for displaying an image of a selected gauge type, the image shown in at least two dimensions and comprising a plurality of visual aids, the plurality of visual aids placed at a plurality of vertical and horizontal locations in the image, the graphical user interface further for enabling a user of the web tool to specify individual ones of gauge functions of the visual aids using at least one drop down menu, wherein the graphical user interface enables specification by the user of both a horizontal location and a vertical location in the image of at least one of the instrument parameters, the graphical user interface further operable, in response to a selection of at least one type of gauge function for one of the visual aids, to change the displayed image to correspond to the selected gauge function.

11. (Original) A tool as in claim 10, further operable to send a data file for use in preparing at least one sample of the selected gauge type in accordance with the selected gauge functions.

12. (Currently Amended) A tool operable to enable a user to specify a gauge, comprising a graphical user interface for displaying an image of a user-selected gauge type comprising a set of configurable gauge functions located at a plurality of locations in the image, for displaying in association with the selected gauge type a set of visual aids corresponding to defined functions and for enabling the user to specify individual ones of the configurable gauge functions using said set of visual aids with a drag and drop technique for selecting individual visual aids from the set of visual aids and associating a selected visual aid with a configurable gauge function, wherein associating also associates the configurable gauge function with a defined function corresponding to the selected visual aid, and wherein said graphical user interface enables a user to move using the drag and drop technique at least one of the configurable gauge functions in at least two dimensions on the image of the selected gauge type, said tool being further operable for outputting a data file for use in manufacturing at least one sample of the selected gauge type in accordance with the configurable gauge functions corresponding to the selected visual aids and associated defined functions.

13. (Currently Amended) A tool as in claim 12, where at least one of the configurable gauge functions ~~are-is~~ located at a fixed locations-location in the image.

14. (Original) A tool as in claim 12, where the configurable gauge functions are located at user selected locations in the image.

15. (Original) A tool as in claim 12, where the configurable gauge functions are located at user selected locations in the image, and have a fixed size and shape.

16. (Original) A tool as in claim 12, where the configurable gauge functions are located at customer selected locations in the image, and have at least one of a size and a shape that is selected by the user.

17. (Currently Amended) A method to conduct business over a data communications network, comprising:

in response to a user accessing a server coupled to the network, displaying an image of a user-selected gauge type, the image shown in at least two dimensions and comprising a plurality of visual aids, the plurality of visual aids placed at a plurality of vertical and horizontal locations in the image;

enabling the user to specify individual ones of a plurality of gauge functions of the visual aids using a plurality of drop down menus, wherein enabling comprises enabling the user to specify both a horizontal location and a vertical location in the image of at least one of the instrument parameters;

in response to a selection of at least one type of gauge function for one of the visual aid, changing the displayed image to correspond to the selected gauge function for providing the user with an image that corresponds to the selected gauge type having the selected gauge function;

custom engineering at least one sample of the selected gauge type, in accordance with the selected gauge functions; and

manufacturing the custom engineered at least one sample for delivery to the user.

18. (Canceled)

19. (Original) A method as in claim 17, where the data communications network is comprised of the Internet.

20. (Currently Amended) A method to conduct business over a data communications network, comprising:

in response to a user accessing a server coupled to the network, displaying an image of a user-selected gauge type comprising a set of configurable gauge functions located at a plurality of locations in the image;

displaying in association with the selected gauge type a set of visual aids corresponding to defined functions;

enabling the user to specify individual ones of the configurable gauge functions using said set of visual aids and a drag and drop technique for selecting individual visual aids from the set of visual aids and associating a selected visual aid with a configurable gauge function, wherein associating also associates the configurable gauge function with a defined function corresponding to the selected visual aid, and wherein enabling comprises enabling the user to move using the drag and drop technique at least one of the configurable gauge functions in at least two dimensions on the image of the selected gauge type;

outputting a data file for use in custom engineering at least one sample of the selected gauge type, in accordance with the configurable gauge functions corresponding to the selected visual aids and associated defined functions;

based at least on the output data file, custom engineering the at least one sample of the selected gauge type; and

manufacturing the custom engineered at least one sample for delivery to the user.

21. (Original) A method as in claim 20, where the data communications network is comprised of the Internet.

22. (Currently Amended) A method to design at least one user interface element of an instrument, comprising:

displaying an image of a selected instrument type, the image shown in at least two dimensions and comprising a blank instrument face;

specifying, through the use of at least a drawing tool of a graphical user interface, at least one characteristic of the at least one user interface element, the at least one characteristic comprising a location, a size and a functionality, and wherein specifying allows the location of the at least one characteristic to be moved in at least two dimensions on the image of the selected instrument type;

in response to specifying the at least one characteristic, updating the displayed image to correspond to the specified at least one characteristic; and

developing an output data object for use in obtaining at least one prototype sample of the instrument having the specified at least one characteristic of the at least one user interface element.

23. (Original) A method as in claim 22, where specifying comprises using a drag and drop technique.

24. (Original) A method as in claim 22, where specifying comprises using a drop down menu technique.

25. (Original) A method as in claim 22, where specifying comprises using a drawing tool.
26. (Original) A method as in claim 22, where at least a portion of the data object is stored in the instrument for use by a controller in controlling operation of the at least one user interface element.
27. (Original) A method as in claim 22, where at least a portion of the data object is stored in a non-volatile memory of the instrument for use by an instrument controller in controlling operation of the at least one user interface element.
28. (Original) A method as in claim 22, where at least a portion of the data object is stored in a volatile memory of the instrument for use by an instrument controller in controlling operation of the at least one user interface element.
29. (Original) A method as in claim 22, where at least a portion of the data object is stored in the instrument for use by an instrument controller in mapping between at least one instrument input and the at least one user interface element.
30. (Original) A method as in claim 22, where specifying uses at least one tool for enabling a user to select at least a placement, a size and a functionality of the at least one user interface element.
31. (Canceled)



32. (Original) A method as in claim 22, where the instrument comprises a display, and where the data object is loaded into the instrument for use by an instrument controller in displaying, in cooperation with the display, the at least one specified user interface element.

33. (Original) A method as in claim 22, where specifying comprises performing a validity check to ensure that the at least one characteristic that is specified is compatible with the functionality of the at least one user interface element.

34. (Original) A method as in claim 22, where specifying comprises re-sizing a displayed user interface element.

35. (Original) A method as in claim 22, where specifying comprises changing an orientation of a displayed user interface element.

36. (Previously Presented) A method as in claim 22, where specifying comprises changing the location of a displayed user interface element.

37. (Original) A method as in claim 22, where specifying comprises changing an aspect ratio of a displayed user interface element.

38. (Original) A method as in claim 22, where specifying comprises changing a shape of a displayed user interface element.

39. (Original) A method as in claim 22, where the instrument comprises a gauge.

40. (Original) A method as in claim 32, where the display comprises a two dimensional array of separately addressable pixels.

41. (Original) A method as in claim 32, where the display comprises one of a liquid crystal display and a plasma display.

42. (Original) A method as in claim 22, where the instrument comprises a plurality of indicators and an overlay placed over the indicators, the overlay having areas selectively removed, and where the data object is loaded into the instrument for use by an instrument controller in displaying, in cooperation with the plurality of indicators and the overlay, the at least one specified user interface element.

43. (Currently Amended) An instrument comprising:

a connector comprising at least one instrument input, the connector having a specified connector type;

a display for showing at least one ~~user interface element~~gauge function;

a memory; and

an instrument controller that is coupled to said memory, to said display and to ~~the~~ at least one instrument input on the connector, said memory storing data for use by said instrument controller in mapping between said at least one instrument input and said at least one ~~user interface element~~gauge function, the instrument controller configured to cause the at least one gauge function to be displayed and updated on the display, where

the data comprises data developed during an interactive design process where there was displayed an image of a selected instrument type for enabling a potential customer

to specify, through the use of a graphical user interface, at least one characteristic of the at least one user interface element and to specify the connector type.

44. (Original) An instrument as in claim 43, where the data developed during the interactive design process is suitable for use in obtaining at least one prototype sample of the instrument having the specified at least one characteristic of the at least one user interface element.

45. (Currently Amended) An instrument as in claim 43, where the ~~at least one user interface element~~ instrument comprises a gauge.

46. (Previously Presented) A method as in claim 5, wherein the data file comprises a mapping data file configured to instruct a controller to map between gauge inputs and associated ones of the gauge functions.

47. (Previously Presented) A method as in claim 5, further comprising allowing, after a visual aid has been associated with a chosen configurable gauge function, the user to perform at least one of changing a location of the chosen configurable gauge function, re-sizing the chosen configurable gauge function, changing an orientation of the chosen configurable gauge function, changing an aspect ratio of the chosen configurable gauge function, or changing a shape of the chosen configurable gauge function, and wherein the data file also comprises information corresponding to resultant location, size, orientation aspect ratio, or shape of the chosen configurable gauge function.

48. (Previously Presented) A tool as in claim 12, wherein the data file comprises a mapping data file configured to instruct a controller to map between gauge inputs and associated ones of the gauge functions.

49. (Previously Presented) A tool as in claim 12, wherein the graphical user interface is further for allowing, after a visual aid has been associated with a chosen configurable gauge function, the user to perform at least one of changing a location of the chosen configurable gauge function, re-sizing the chosen configurable gauge function, changing an orientation of the chosen configurable gauge function, changing an aspect ratio of the chosen configurable gauge function, or changing a shape of the chosen configurable gauge function, and wherein the data file also comprises information corresponding to resultant location, size, orientation aspect ratio, or shape of the chosen configurable gauge function.

50. (Previously Presented) A tool as in claim 12, wherein the data file comprises a mapping data file configured to instruct a controller to map between gauge inputs and associated ones of the gauge functions.

51. (Previously Presented) A method as in claim 17, wherein the data file forms part of a sample request, and wherein the method further comprise, prior to manufacturing:

at least one person approving or rejecting the sample request; and

performing custom engineering and manufacturing in response to approving the sample request.

52. (Previously Presented) A method as in claim 51, wherein:

custom engineering further comprises determining that a level of customization by the user requires at least one of an overlay change, a software change, or a

hardware change and performing the at least one overlay change, software change, or hardware change in order to manufacture the at least one sample of the selected gauge type; and

manufacturing further comprises manufacturing the at least one sample based at least in part on the performed at least one overlay change, software change, or hardware change.

53. (Previously Presented) A method as in claim 20, wherein the data file forms part of a sample request, and wherein the method further comprise, prior to manufacturing:

at least one person approving or rejecting the sample request; and

performing custom engineering and manufacturing in response to approving the sample request.

54. (Previously Presented) A method as in claim 53, wherein:

custom engineering further comprises determining that a level of customization by the user requires at least one of an overlay change, a software change, or a hardware change and performing the at least one overlay change, software change, or hardware change in order to manufacture the at least one sample of the selected gauge type; and

manufacturing further comprises manufacturing the at least one sample based at least in part on the performed at least one overlay change, software change, or hardware change.

55. (Previously Presented) A method as in claim 20, wherein the data file comprises a mapping data file configured to instruct a controller to map between gauge inputs and associated ones of the gauge functions.

56. (Previously Presented) A method, comprising:

displaying a gauge face for a user-selected gauge type, the gauge face shown in two dimensions;

displaying, in association with the selected gauge type, a set of visual aids at predetermined vertical and horizontal locations on the gauge face, each of the visual aids corresponding to at least one potential gauge function;

enabling a user to specify at least one of the potential gauge functions for each of selected ones of the visual aids in the set;

outputting a data file for use in manufacturing a sample of a gauge corresponding to the user-selected gauge type, the data file comprising data corresponding to the selected visual aids and the associated specified gauge functions and locations on the gauge thereof; and

based at least on the output data file, manufacturing the sample of the gauge, wherein a gauge face of the gauge comprises symbols corresponding to the visual aids, each symbol presented on the gauge face at a horizontal and vertical location that corresponds to a corresponding visual aid, and wherein the gauge comprises a controller to provide the specified gauge functions corresponding to the symbols of the visual aids.

57. (Previously Presented) A method, comprising:

displaying a gauge face for a user-selected gauge type, the gauge face shown in two dimensions;

displaying, in association with the selected gauge type, a set of visual aids, each of the visual aids corresponding to at least one potential gauge function;

enabling a user to place selected ones of the visual aids at horizontal and vertical locations chosen by the user;

enabling the user to specify at least one of the potential gauge functions for each of selected ones of the visual aids in the set;

outputting a data file for use in manufacturing a sample of a gauge corresponding to the user-selected gauge type, the data file comprising data corresponding to the selected visual aids and the associated specified gauge functions and locations on the gauge thereof; and

based at least on the output data file, manufacturing the sample of the gauge, wherein a gauge face of the gauge comprises symbols corresponding to the visual aids, each symbol presented on the gauge face at a horizontal and vertical location that corresponds to a corresponding visual aid, and wherein the gauge comprises a controller to provide the specified gauge functions corresponding to the symbols of the visual aids.